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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19304D 6SRS, MISSILE NUMBERS 1071, 1079, ROUND NUMBERS V-70,V-7--ETC(U)
OCT 79

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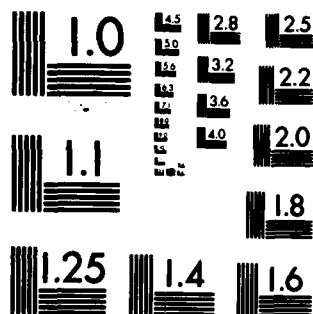
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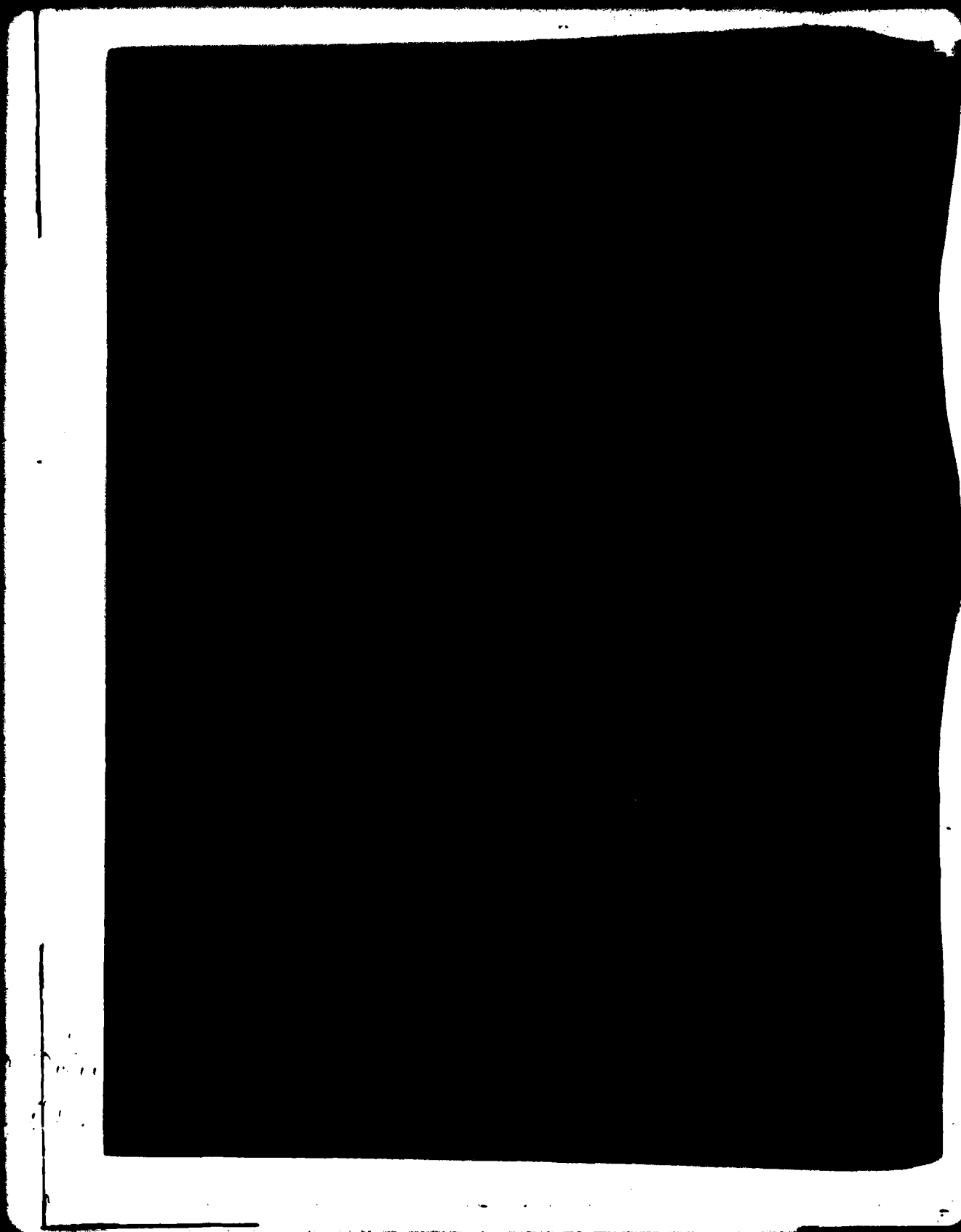
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19304D GSRS, Missile Numbers 1071, 1079, Round Numbers V-70, V-71, are presented in tabular form. 410663		

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INTRODUCTION

19304D GSRS, Missile Numbers 1071 and 1079, Round Numbers V-70 and V-71, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0924 and 0924:16 MDT, 10 October 1979. The scheduled launch times were 0900 and 0900:02.5 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

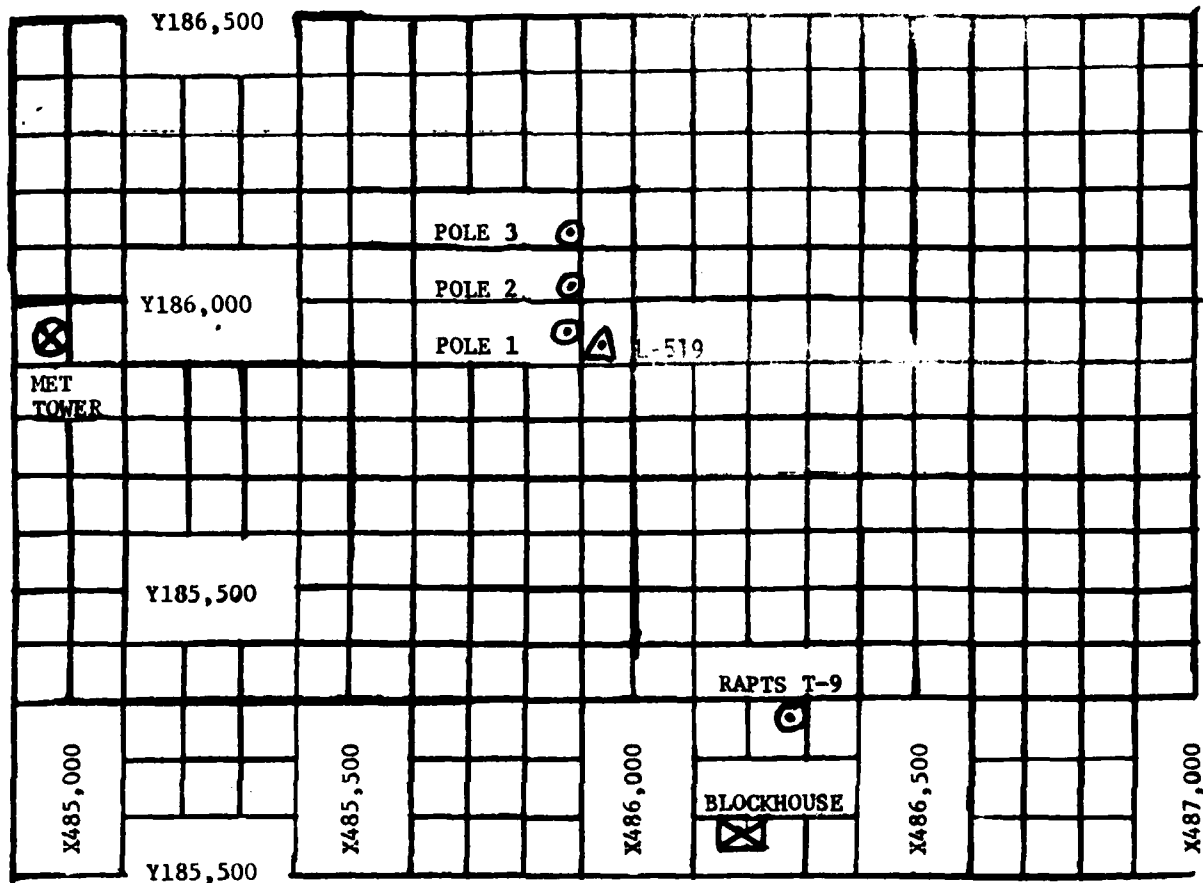
SITE AND ALTITUDE

LC-33 2 KM
NICK 2 KM

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 40, 500 feet in 500-foot increments.

SITE AND TIME

SMR 0824 MST



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 - 38.7 ft
 - (b) Pole #2 - 53.0 ft
 - (c) Pole #3 - 83.6 ft
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

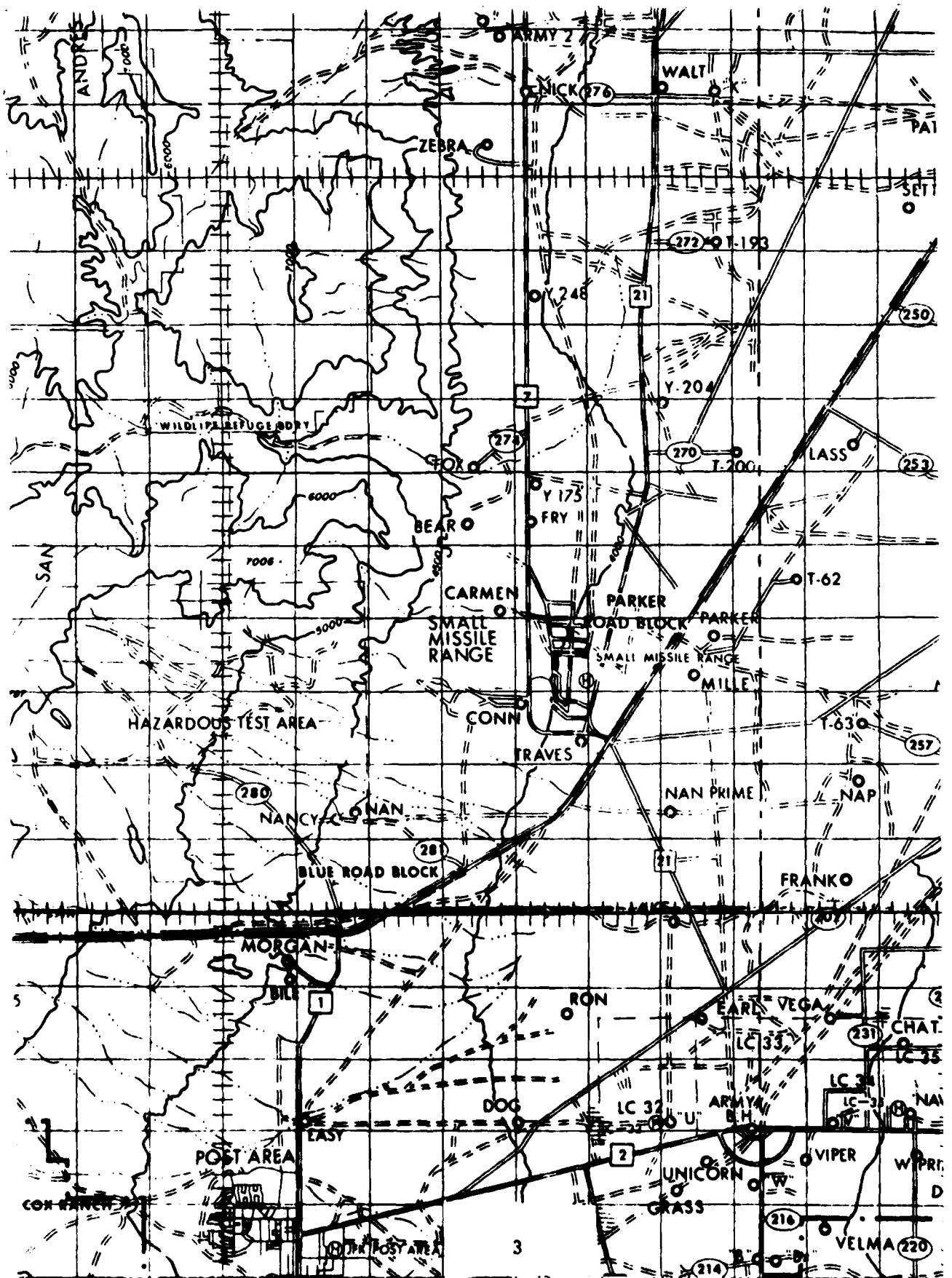


TABLE 1. Surface Observations taken at 0924 MDT,
10 October 1979, at LC-33, 19304D GSRS,
Missile Numbers 1071, 1079, Round
Numbers V-70, V-71.

ELEVATION	3977.30	FT/MSL
PRESSURE	887.3	MBS
TEMPERATURE	14.1	°C
RELATIVE HUMIDITY	45	%
DEW POINT	2.4	°C
DENSITY	1071	GM/M ³
WIND SPEED	CALM	KTS
WIND DIRECTION		DEGREES
CLOUD COVER	CLEAR	

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30		CALM	-30	MISG	01	-30		CALM
-20		CALM	-20	MISG	01	-20		CALM
-10		CALM	-10		CALM	-10		CALM
0.0		CALM	0.0		CALM	0.0		CALM
+10		CALM	+10		CALM	+10		CALM

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft AGL

TABLE 2

TYPE 19304D GSRS MISSILE NOS. 1071, 1079 ROUND NOS. V-70, V-71

LAUNCHED FROM LC-33 DATE 10 October 1979 TIMES: 0924:, 0924:16 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 Feet			LEVEL #2 62 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30		CALM	-30		CALM
-20	141	02	-20		CALM
-10	141	02	-10		CALM
0.0	141	01	0.0		CALM
+10		CALM	+10		CALM
LEVEL #3 102 Feet			LEVEL #4 202 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30		CALM	-30		CALM
-20		CALM	-20		CALM
-10		CALM	-10		CALM
0.0		CALM	0.0		CALM
+10		CALM	+10		CALM

WTSM COORDINATES: X484,982.64 Y185,057.73 H3983.00 (base)

TABLE 3

TYPE 19304D GSRS MISSILE NOS. 1071, 1079 ROUND NOS. V-70, V-71

LAUNCHED FROM LC-33 DATE 10 October 1979 TIMES: 0924, 0924:16 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 10 October 1979 TIME 0924 MDT

RELEASED POINT COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30

MISSILE TYPE 19304D GSRS MISSILE NO. 1071, 1079 ROUND NO. V-70, V-71

MISSILE LAUNCHED FROM LC-33 DATE 10 October 1979 TIME 0924, 0924:16 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM
90	MISG.	MISG.
150	MISG.	MISG.
210	MISG.	MISG.
270	245	01
330	214	06
390	194	06
500	209	06
650	288	06
800	296	13
950	318	15
1150	313	16
1350	329	23
1550	322	25

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
1750	314	30
2000	314	32

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LONG DEG

SIGNIFICANT LEVEL DATA

2830000338

S M R

TABLE 5

STATION ALTITUDE 3997.30 FEET MSL
10 OCT. 79 0824 HRS MST
ASCENSION NO. 338

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
986.1	3997.3	14.7	1.3	40.0
871.2	4466.2	12.5	-1.8	37.0
850.0	5145.0	12.7	-1.8	37.0
841.6	5413.6	12.5	-1.8	37.0
832.0	5735.8	14.5	-8	35.0
812.6	6390.2	14.4	-1.8	33.0
783.8	7395.4	17.1	-6.7	19.0
700.0	10522.3	10.5	-13.5	17.0
594.6	14908.2	1.1	-23.4	14.0
561.4	16417.9	-2.0	-20.8	22.0
500.0	19398.1	-10.4	-22.9	35.0
474.8	20703.5	-12.1	-32.7	16.0
400.0	24939.7	-21.4	-41.7	14.0
318.2	30374.7	-32.1	-49.9	15.0
300.0	31733.6	-35.7		
250.0	35816.2	-46.3		
215.4	39025.9	-53.4		
206.2	39951.4	-53.5		
200.0	40596.0	-55.3		
197.0	40913.0	-56.4		

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GEODETIC COORDINATES
32-48034 LAT DEG
106-42307 LON DEG

UPPER AIR DATA
2630000330
5 M R

STATION ALTITUDE 3997.30 FEET MSL
10 OCT. 79 0824 HRS MST
ASCENSION NO. 338

TABLE 6

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	#INCL DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTIO. DEGREES (SUN)	SPEED KNOTS	
3997.3	836.1	14.7	1.3	40.0	1069.3	661.9	0	0	1.000209
4000.0	836.0	14.7	1.2	40.0	1069.3	661.9	259.4	0	1.000209
4500.0	870.1	12.5	-1.8	37.0	1056.7	659.2	259.4	1.5	1.000261
5000.0	854.5	12.7	-1.6	37.0	1039.0	659.4	259.4	3.1	1.000257
5500.0	839.1	13.0	-1.5	36.5	1019.0	659.8	259.4	4.6	1.000252
6000.0	824.1	14.5	-1.1	34.2	995.0	661.5	265.1	6.2	1.000248
6500.0	809.4	14.7	-2.0	31.5	977.2	661.8	268.1	8.9	1.000242
7000.0	795.0	16.0	-4.2	24.5	953.7	663.2	303.1	12.2	1.000233
7500.0	760.8	16.9	-6.9	18.9	930.2	664.0	310.0	16.1	1.000225
8000.0	736.8	15.8	-8.0	18.6	922.9	662.8	321.6	20.4	1.000221
8500.0	753.1	14.8	-9.1	18.3	909.8	661.6	323.6	24.7	1.000217
9000.0	739.6	13.7	-10.2	18.0	890.9	660.3	319.9	27.1	1.000213
9500.0	726.4	12.7	-11.3	17.7	884.2	659.1	315.3	29.2	1.000209
10000.0	713.3	11.6	-12.3	17.3	871.6	657.8	314.7	29.5	1.000205
10500.0	700.6	10.5	-13.4	17.0	859.3	656.0	314.2	29.6	1.000202
11000.0	687.7	9.5	-14.6	16.7	846.7	655.3	313.6	28.8	1.000198
11500.0	675.0	8.4	-15.7	16.3	834.3	654.0	312.1	27.8	1.000194
12000.0	662.6	7.3	-16.8	16.0	822.1	652.8	308.7	26.5	1.000191
12500.0	650.3	6.3	-17.9	15.6	810.1	651.5	305.6	25.4	1.000188
13000.0	638.4	5.2	-19.1	15.3	798.3	650.2	303.5	24.4	1.000184
13500.0	626.6	4.1	-20.2	15.0	786.7	648.9	305.9	23.1	1.000181
14000.0	615.0	3.0	-21.3	14.6	775.2	647.7	310.5	21.9	1.000178
14500.0	603.7	2.0	-22.4	14.3	763.9	646.4	314.2	20.8	1.000175
15000.0	592.5	.9	-23.1	14.5	752.7	645.1	317.8	19.9	1.000172
15500.0	581.4	-1.1	-22.1	17.1	741.3	643.9	319.2	19.7	1.000170
16000.0	570.4	-1.1	-21.3	19.8	730.0	642.8	320.6	19.4	1.000168
16500.0	559.6	-2.2	-20.8	22.4	719.0	641.5	322.7	19.1	1.000166
17000.0	548.8	-3.6	-21.0	24.5	708.9	639.8	323.8	19.1	1.000164
17500.0	538.3	-5.0	-21.2	26.7	698.9	638.1	323.6	19.3	1.000162
18000.0	527.9	-6.5	-21.5	28.9	689.1	636.5	324.1	20.0	1.000159
18500.0	517.8	-7.9	-22.0	31.1	679.4	634.8	324.9	21.1	1.000157
19000.0	507.8	-9.3	-22.4	33.3	669.9	633.1	325.2	22.2	1.000155
19500.0	498.0	-10.5	-23.5	33.5	660.1	631.5	327.7	23.2	1.000152
20000.0	488.2	-11.2	-26.7	26.2	648.9	630.7	333.1	22.8	1.000148
20500.0	478.6	-11.8	-30.7	19.0	637.9	629.9	339.6	22.3	1.000145
21000.0	469.1	-12.8	-33.3	15.9	627.4	628.7	347.1	22.1	1.000142
21500.0	459.7	-13.8	-34.4	15.6	617.5	627.4	354.0	22.3	1.000139
22000.0	450.5	-14.9	-35.4	15.4	607.7	626.1	355.6	23.4	1.000137
22500.0	441.5	-16.0	-36.5	15.2	598.1	624.7	356.5	23.9	1.000135
23000.0	432.7	-17.1	-37.6	14.9	588.6	623.4	359.7	23.1	1.000132

STATION ALTITUDE 3997.30 FEET MSL
10 OCT. 79 0824 HRS MST
ASCENSION NO. 338

UPPER AIR DATA
2630000338
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 6 Cont.

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREEES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) DEGREEES	SPEED KNOTS	INDEX OF REFRACTION
23500.0	424.0	-18.2	14.7	579.3	622.1	3.9	22.3	1.000130
24000.0	415.5	-19.3	14.4	570.2	620.7	9.5	21.5	1.000128
24500.0	407.2	-20.4	14.2	561.2	619.4	13.1	21.8	1.000126
25000.0	399.0	-21.5	14.0	552.3	618.0	14.4	22.9	1.000124
25500.0	390.7	-22.5	14.1	542.9	616.8	15.7	23.8	1.000122
26000.0	382.5	-23.5	14.2	533.7	615.6	17.0	24.4	1.000120
26500.0	374.6	-24.5	14.3	524.7	614.4	20.1	25.0	1.000118
27000.0	366.8	-25.5	14.4	515.8	613.2	24.3	25.8	1.000116
27500.0	359.1	-26.4	14.5	507.1	611.9	24.6	25.3	1.000114
28000.0	351.7	-27.4	14.6	498.5	610.7	22.0	24.1	1.000112
28500.0	344.3	-28.4	14.7	490.1	609.5	14.3	22.6	1.000110
29000.0	337.2	-29.4	14.7	481.8	608.3	1.4	21.8	1.000108
29500.0	330.1	-30.4	14.8	473.7	607.0	349.4	23.8	1.000106
30000.0	323.3	-31.4	14.9	465.7	605.8	341.6	27.6	1.000104
30500.0	316.5	-32.4	13.6**	458.0	604.5	337.0	31.1	1.000102
31000.0	309.7	-33.8	8.1**	450.6	602.8	334.0	34.7	1.000101
31500.0	303.1	-35.1	2.6**	443.5	601.1	332.1	37.5	1.000099
32000.0	296.5	-36.4		436.2	599.4	330.0	40.2	1.000097
32500.0	289.9	-37.7		428.9	597.8	329.2	42.3	1.000096
33000.0	283.5	-39.0		421.8	596.1	327.9	44.4	1.000094
33500.0	277.2	-40.3		414.8	594.5	326.4	45.9	1.000092
34000.0	271.1	-41.6		407.9	592.8	325.0	47.4	1.000091
34500.0	265.1	-42.9		401.1	591.2	323.9	48.8	1.000089
35000.0	259.3	-44.2		394.5	589.5	322.9	50.4	1.000088
35500.0	253.6	-45.5		388.0	587.8	321.8	52.4	1.000086
36000.0	247.9	-46.7		381.3	586.2	319.8	54.3	1.000085
36500.0	242.2	-47.8		374.4	584.8	318.2	56.0	1.000083
37000.0	236.6	-48.9		367.8	583.4	314.0	56.6	1.000082
37500.0	231.2	-50.0		361.0	581.9	314.2	55.0	1.000080
38000.0	225.9	-51.1		354.5	580.3	315.4	54.0	1.000079
38500.0	220.7	-52.2		348.1	579.0	318.3	54.3	1.000078
39000.0	215.7	-53.3		341.8	577.6	320.0	55.7	1.000076
39500.0	210.6	-53.5		334.0	577.4	318.8	59.3	1.000074
40000.0	205.7	-53.6		326.5	577.2			1.000073
40500.0	200.9	-55.0		320.9	575.4			1.000071

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
10 OCT. 79 0824 HRS MST
ASCENSION I.O. 338

MANDATORY LEVELS
26300.0336
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 7

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEW POINT CENTIGRADE	PERCENT	DIRECTION DEGREES (IN)	SPEED KNOTS	
850.0	5141.	12.7	-1.0	37.	259.4	3.5	
800.0	6819.	15.6	-3.4	27.	296.3	11.0	
750.0	8015.	14.5	-9.3	18.	323.8	25.6	
700.0	10512.	10.5	-13.5	17.	314.2	29.6	
650.0	12519.	6.2	-18.0	16.	305.7	25.4	
600.0	14652.	1.6	-22.0	14.	315.5	20.5	
550.0	16931.	-3.5	-20.9	24.	323.8	19.0	
500.0	19371.	-10.4	-22.9	35.	327.4	23.0	
450.0	22011.	-15.0	-35.5	15.	355.1	23.4	
400.0	24098.	-21.4	-41.7	14.	14.2	22.8	
350.0	28089.	-27.6	-46.4	15.	22.1	23.8	
300.0	31670.	-35.7			331.4	30.6	
250.0	35737.	-46.3			321.1	53.7	
200.0	40497.	-55.3					

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

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